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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/465,016	12/16/1999	GIACOMO STEFANO ROBA, MONZA	05788-0111	8368

22852 7590 11/21/2002

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EXAMINER

HOFFMANN, JOHN M

ART UNIT PAPER NUMBER

1731

DATE MAILED: 11/21/2002

16

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/465,016

Applicant(s)

ROBA ET AL.

Examiner

John Hoffmann

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-14 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Continued Prosecution Application***

The request filed on 9 October 2002 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/465016 is acceptable and a CPA has been established. An action on the CPA follows.

Claims 15-19 remain withdrawn from considerations as there was no indication that Applicant's desired a shift in prosecution.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 12-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Kuisl 4650693.

Either, furnace 60 or tube 41 delimits the reaction chamber. Wall 41 is the heatable inner wall: everything is heatable.

As to the "controlled temperature gradient": Col. 4, lines 52-56 disclose heating gas stream 20. This means heat is transferred to gas stream 20. This means that with time, the gas stream temperature rises. This means the gas starts out at one

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temperature, and as time progresses, the temperature increases. Since the gas is moving at the same time the temperature increases. Thus at the left, the gas stream 20 is at a lower temperature than it is towards the right. Thus the stream 20 has a temperature gradient from the left to the right. Since the wall 41 is exposed to the stream 20, the wall is also exposed to the temperature gradient of the stream. AS further evidence COI. 4, lines 46-48 indicate the gases are only at 800-1000 whereas lines 52-59 state they are heated to 1200 C - and the stream 20 is heated further.

As to the gradient being "controlled": it is controlled by the amount of heat input into the heater(s) and the flow rate of the gas, and the initial temperature of the gas. Examiner could find no definition in the specification for what is meant by "controlled". Moreover, there doesn't seem to be any explanation as to what Applicant does to "control" the temperature, thus it is improper for Examiner to assume any sort of definition for "controlled".

As to the gradient being from the inlet zone to the outlet zone, first it is noted that there is no supplied definition for the term "zone". It is further noted that a zone does not require any structural boundaries. It is deemed that the broadest reasonable interpretation for "outlet zone" is --a zone which comprises an outlet--. Likewise for "inlet zone" : --a zone which comprises an inlet. Thus one can arbitrarily designate a right portion of any size to be the outlet zone and a left portion to be the inlet zone - so that the gradient exists between the two zones.

AS to the rest of the limitations: 2 represents the first gaseous or vaioir phase; 3 represents thesupplying of water. The reacting occurs as per col. 2 lines 57-62 and 42. The directing and depositing can easily be seen from the drawing.

In addition, it is noted that claims 1 and 8 as originally filed has the (class) aerosol stream, being raised from 700 C to 1200 C. It appears that the only way that this to happen is that the unreacted gases are injected at a temperature below the reaction temperature, then heated up to react (i.e. above 800 C) and form the aerosol stream. This aerosol stream must then be cooled from down to at least 700, then increased "from about 700 C at the inlet to about 1200 C at the outlet".

Claim 2 is clearly met.

Claim 3: the disclosed temperature ranges clear represent a difference in a temperature of 300 C. One of odrinday skill at once envisions such a difference.

Claim 4: see col. 4, lines 44-50.

Claims 5 and 12-13: see previous Office action

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-7, 9-11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuisl 4650693 .

See the previous Office actions for the explanation as to why the claims are obvious modifications.

### ***Allowable Subject Matter***

Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Claim 8 requires that the aerosol is heated from 700 to 1200. The prior art does not teach this. To achieve this the prior art would first have to cool the aerosol down to 700 first, then pass it through the same inlet that the unreacted gases passed through: there is no reason to do either of these things. It is noted that the starting gases are not a part of the aerosol.

### ***Response to Arguments***

Applicant's arguments filed 11 September 2002 have been fully considered but they are not persuasive.

It is argued that there is no other structure (besides feature 1) in Kuisl which operates as a reaction chamber; And that a reaction chamber is a standard device that is well known and defined in the art. The rejections are based on the broadest reasonable interpretation of "reaction chamber" --a chamber in which a reaction occurs, or could occur--. For the most part, any chamber could be considered a reaction chamber. It appears that Applicant is relying on a more limited definition of "reaction chamber". However, there is no indication of what that definition is, nor is there any argument as to why such a definition would be appropriate and the Examiner's broad definition is not not appropriate. There is only an allegation that the pipes do not function as reaction chamber - but no rationale to support this.

Although it is argued that pipes function as conduits, there is no indication as to why the pipes cannot have dual functionality. The reaction occurs within the pipes as well as the conduiting step. The claims do not preclude the reaction chamber from also having a conduit-type functionality. The same applies to the furnace - although it serves to heat, it is also a chamber in which a reaction occurs.

AS to the arguments that Kuisl does not meet the temperature gradient limitation: see the rejection as to why the gradient is inherent. Gas is injected into the furnaces - and as it passes along the furnace, the gas increases in temperature.

It is still further argued that Kuisl teaches away from the temperature gradient, because Kuisl teaches that the furnace is heated to a constant temperature. This is not persuasive because the claims do not preclude the furnace wall from having a constant temperature. The claims merely require that the wall is "subjected to a controlled

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temperature gradient"; the claim does not require that the wall have a temperature gradient. The gas stream of Kuisl has a gradient to which the wall is subjected.

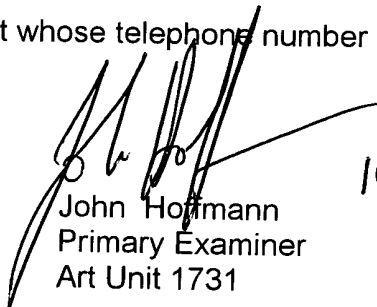
### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ruppert, Roba, Branston and Blackwell are cited as being of general interest.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is 703-308-0469. The examiner can normally be reached on Monday, Tuesday, Wednesday, Thursday, Friday.

The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7115 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.

  
John Hoffmann  
Primary Examiner  
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11-19-02